

IN THE CLAIMS:

1 1. (CURRENTLY AMENDED) A method for modifying data transferred from a source
2 to a destination, the method comprising the steps of:

3 reading one or more instructions, by a processor, each instruction indicating an
4 operation to modify the data;

5 generating, in response to the one or more instructions, one or more commands
6 wherein each command is associated with the operation to modify the data;

7 placing the one or more commands in a data structure;

8 holding the one or more commands and not performing the operations associated
9 with the one or more commands until initiation of a initiating-transfer of data from the
10 source to the destination; and

11 performing, by a device operating independently from the processor, the opera-
12 tions associated with the one or more commands contained in the data structure, to mod-
13 ify the data as directed by the one or more commands as the data is transferred from the
14 source to the destination.

1 2. (PREVIOUSLY PRESENTED) The method as defined in claim 1 further comprising
2 the step of:

3 acquiring the data from the source.

1 3. (PREVIOUSLY PRESENTED) The method as defined in claim 2 further comprising
2 the steps of:

3 generating a bit mask associated with the acquired data; and

4 transferring the bit mask and the acquired data to the destination.

1 4. (PREVIOUSLY PRESENTED) The method as defined in claim 2 wherein the data
2 structure comprises one or more entries wherein each entry is associated with a command

3 and the entry contains information associated with a range of addresses and an operation
4 code that are associated with the command.

1 5. (PREVIOUSLY PRESENTED) The method as defined in claim 4 further comprising
2 the step of:

3 searching the data structure for an entry containing information associated with a
4 range of addresses that matches a range of addresses associated with the acquired data;

5 if a matching entry is found, determining if an operation code contained in the
6 matching entry indicates a delete data operation; and

7 if so, generating a delete bit mask that represents data that is deleted in the ac-
8 quired data and transferring the delete bit mask and the acquired data to the destination.

1 6. (PREVIOUSLY PRESENTED) The method as defined in claim 4 comprising the
2 steps of:

3 searching the data structure for an entry containing information associated with a
4 range of addresses that matches a range of addresses associated with the acquired data;

5 if a matching entry is found, determining if an operation code contained in a
6 matching entry indicates an insert data operation; and if so,

7 a) generating a leading bit mask that represents leading data contained in
8 the acquired data,

9 b) transferring the leading bit mask and the acquired data to the destina-
10 tion,

11 c) acquiring insert data,

12 d) generating an insert data bit mask that represents the insert data,

13 e) transferring the insert data bit mask and the insert data to the destina-
14 tion,

15 f) generating a lagging bit mask that represents lagging data contained in
16 the acquired data, and

17 g) transferring the lagging bit mask and the acquired data to the

18 destination.

1 7. (PREVIOUSLY PRESENTED) The method as defined in claim 4 wherein each entry
2 contains a length and a source address associated with the command.

1 8. (PREVIOUSLY PRESENTED) The method as defined in claim 7 comprising the step
2 of:
3 searching the data structure for an entry containing information associated with a
4 range of addresses specified by the combination of the length and the source address con-
5 tained in the entry that matches a range of addresses associated with the acquired data.

1 9. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the data
2 structure is a table.

1 10. (PREVIOUSLY PRESENTED) The method as defined in claim 1 comprising the
2 step of:
3 clearing the data structure.

1 11. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the source
2 is a context memory.

1 12. (PREVIOUSLY PRESENTED) The method as defined in claim 1 wherein the desti-
2 nation is an output buffer.

1 13. (CURRENTLY AMENDED) A system comprising:
2 a context memory configured to hold data;
3 a data structure configured to hold one or more commands;
4 a processor configured to read one or more instructions, each instruction indicat-
5 ing an operation to modify the data, and in response generate one or more commands to

6 | modify the data, the processor further configured to place the one or more commands in
7 | the data structure;
8 | an output buffer; and
9 | a data mover coupled to the context memory and the output buffer and configured
10 | to not perform the operations associated with the one or more commands until transfer of
11 | the data from the context memory to the output buffer has been initiated, and upon initia-
12 | tion of a transfer to acquire the data from the context memory, modify the data as di-
13 | rected by the one or more commands contained in the data structure, and transfer the
14 | modified data to the output buffer.

1 | 14. (PREVIOUSLY PRESENTED) The system as defined in claim 13 wherein the data
2 | structure is a table.

1 | 15. (PREVIOUSLY PRESENTED) The system as defined in claim 13 wherein the data
2 | structure comprises one or more entries wherein each entry is associated with a command
3 | and the entry contains information associated with a range of addresses and an operation
4 | code that are associated with the command.

1 | 16. (PREVIOUSLY PRESENTED) The system as defined in claim 15 wherein the data
2 | mover is configured to search the data structure for an entry containing information asso-
3 | ciated with a range of addresses that matches a range of addresses associated with the ac-
4 | quired data and if a matching entry is found, determine if the operation code contained in
5 | the matching entry indicates a delete data operation and, if so, generate a delete bit mask
6 | that represents data that is deleted in the acquired data.

1 | 17. (PREVIOUSLY PRESENTED) The system as defined in claim 15 wherein the data
2 | mover is configured to search the data structure for an entry containing information asso-
3 | ciated with a range of addresses that matches a range of addresses associated with the ac-
4 | quired data and if a matching entry is found, determine if the operation code contained in

5 the matching entry indicates an insert data operation and if so, (i) generate a leading bit
6 mask that represents leading data contained in the acquired data, (ii) transfer the leading
7 bit mask and acquired data to the destination, (iii) acquire insert data, (iv) generate an in-
8 sert data bit mask that represents the insert data, (v) transfer the insert data bit mask and
9 insert data to the destination, (vi) generate a lagging bit mask that represents lagging data
10 contained in the acquired data, and (vii) transfer the lagging bit mask and the acquired
11 data to the destination.

1 18. (PREVIOUSLY PRESENTED) The system as defined in claim 15 wherein each en-
2 try in the data structure contains a length and a source address associated with the com-
3 mand.

1 19. (PREVIOUSLY PRESENTED) The system as defined in claim 18 wherein the data
2 mover is configured to search the data structure for an entry containing information asso-
3 ciated with a range of addresses specified by the combination of the length and the source
4 address contained in the entry that matches a range of addresses associated with the ac-
5 quired data.

1 20. (PREVIOUSLY PRESENTED) The system as defined in claim 13 wherein the data
2 mover is configured to generate a bit mask associated with the data and transfer the bit
3 mask to the output buffer.

1 21. (PREVIOUSLY PRESENTED) The system as defined in claim 20 wherein the out-
2 put buffer comprises:

3 data steering logic configured to use the bit mask to identify valid data contained
4 in the transferred data;

5 a working register coupled to the data steering logic and configured to hold the
6 valid data transferred from the data steering logic; and

an output queue coupled to the working register and configured to hold the valid data transferred from the working register.

22. (CURRENTLY AMENDED) An apparatus for modifying data transferred from a source to a destination, the apparatus comprising:

means for reading one or more instructions, each instruction indicating an operation to modify the data;

means for generating, in response to the one or more instruction, one or more commands wherein each command is associated with an operation to modify the data;

means for placing the one or more commands in a data structure;

means for holding the one or more commands and not performing the operations associated with the one or more commands until initiation of a initiating-transfer of data from the source to the destination; and

means for performing, independent from the means for generating, the operations associated with the one or more commands contained in the data structure, to modify the data as directed by the one or more commands as the data is transferred from the source to the destination.

23. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 22 comprising:

means for acquiring the data from the source.

24. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 23 comprising:

means for generating a bit mask associated with the acquired data; and

transferring the bit mask and the acquired data to the destination.

25. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 23 wherein the

data structure comprises one or more entries wherein each entry is associated with a command and the entry contains information associated with a range of addresses and an operation code that are associated with the command.

1 26. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 25 comprising:

2 means for searching the data structure for an entry containing information associ-
3 ated with a range of addresses that matches a range of addresses associated with the ac-
4 quired data;

5 means for determining if the operation code contained in a matching entry indi-
6 cates a delete data operation; and

7 means for generating a delete bit mask that represents data that is deleted in the
8 acquired data and transferring the delete bit mask and the acquired data to the destination,
9 if the operation code in the matching entry indicates a delete data operation.

1 27. (PREVIOUSLY PRESENTED) The apparatus as defined in claim 25 comprising:

2 means for searching the data structure for an entry containing information associ-
3 ated with a range of addresses that matches a range of addresses associated with the ac-
4 quired data;

5 means for determining if the operation code contained in a matching entry indi-
6 cates an insert data operation; and

7 means for (i) generating a leading bit mask that represents leading data contained
8 in the acquired data, (ii) transferring the leading bit mask and the acquired data to the
9 destination, (iii) acquiring insert data, (iv) generating an insert data bit mask that repre-
10 sents the insert data, (v) transferring the insert data bit mask and the insert data to the des-
11 tination, (vi) generating a lagging bit mask that represents lagging data contained in the
12 acquired data, and (vii) transferring the lagging bit mask and the acquired data to the des-
13 tination, if the operation code indicates an insert data operation.

1 28. (CURRENTLY AMENDED) A computer readable medium comprising computer
2 executable instructions for execution in a processor for:

3 reading one or more instructions indicating an operation to modify the data;

generating, in response to the one or more instructions, one or more commands wherein each command is associated with the operation to modify the data;
placing the one or more commands in a data structure;
holding the one or more commands and not performing the operations associated with the one or more commands until initiation of a initiating-transfer of data from the source to the destination; and
performing the operations associated with the one or more commands contained in the data structure, to modify the data as directed by the one or more commands as the data is transferred from the source to the destination.

29. (PREVIOUSLY PRESENTED) The computer readable medium as defined in claim 28 comprising computer executable instructions for execution in a processor for:
acquiring the data from the source.

30. (PREVIOUSLY PRESENTED) The computer readable medium as defined in claim 29 comprising computer executable instructions for execution in a processor for:
generating a bit mask associated with the acquired data; and
transferring the bit mask and the acquired data to the destination.

31. (PREVIOUSLY PRESENTED) The computer readable medium as defined in claim 29 wherein the data structure comprises one or more entries wherein each entry is associated with a command and contains information associated with a range of addresses and an operation code that are associated with the command.

32. (PREVIOUSLY PRESENTED) The computer readable medium as defined in claim 31 comprising computer executable instructions for execution in a processor for:
searching the data structure for an entry containing information associated with a range of addresses that matches a range of addresses associated with the acquired data;

5 if a matching entry is found, determining if an operation code contained in the
6 matching entry indicates a delete data operation; and
7 if so, generating a delete bit mask that represents data that is deleted in the ac-
8 quired data and transferring the delete bit mask and the acquired data to the destination.

1 33. (PREVIOUSLY PRESENTED) The computer readable medium as defined in claim
2 31 comprising computer executable instructions for execution in a processor for:

3 searching the data structure for an entry containing information associated with a
4 range of addresses that matches a range of addresses associated with the acquired data;

5 if a matching entry is found, determining if an operation code contained in a
6 matching entry indicates an insert data operation; and if so,

7 a) generating a leading bit mask that represents leading data contained in
8 the acquired data,

9 b) transferring the leading bit mask and the acquired data to the destina-
10 tion,

11 c) acquiring insert data,

12 d) generating an insert data bit mask that represents the insert data,

13 e) transferring the insert data bit mask and the insert data to the destina-
14 tion,

15 f) generating a lagging bit mask that represents lagging data contained in
16 the acquired data, and

17 g) transferring the lagging bit mask and the acquired data to the
18 destination.

1 34. (NEW) A method comprising:

2 reading one or more instructions, by a processor, indicating an operation is to be
3 performed on data;

4 generating, in response to the one or more instructions, one or more commands
5 associated with the operation;
6 placing the one or more commands in a data structure;
7 initiating a transfer of the data from a source to a destination;
8 searching the data structure for an entry containing information associated with a
9 range of addresses that matches a range of addresses associated with the data;
10 determining from the entry that the operation is an insert data operation; and
11 performing the insert data operation, by a device operating independently from
12 the processor, by determining a leading portion of the data, transferring the leading por-
13 tion of the data to the destination, acquiring insert data, transferring the insert data to the
14 destination, determining a lagging portion of the data, and transferring the lagging portion
15 of the data to the destination.